

New Claims

1. A stripping device (3) for use with a cutting tool
(1) with a cutting element, in particular a punch (2),
5 for machining a workpiece, in particular a curved metal
sheet (6), at least one fastening piece (4, 28, 40) for
fastening it to the cutting tool, a spring-elastic
element (21) arranged outside the workpiece contact
region, a stripping element (15, 34) which comes into
10 contact with the workpiece and surrounds the cutting
element (2), and at least one guide element (11, 26,
33) guiding the stripping element (15, 34) being
provided, characterized in that a device for securing
against rotation to essentially prevent the stripping
15 element (15) from rotating is provided, the device for
securing against rotation having a pairing, formed
asymmetrically at least in one direction, of stripping
element and a hole or an opening in the guide element
in which to fit the stripping element so as to ensure
20 that the stripping element will be installed with a
unique orientation.

2. The stripping device (3) as claimed in claim 1,
characterized in that the device for securing against
25 rotation comprises a stripping element with an
irregular cross-sectional shape.

3. The stripping device (3) as claimed in claim 1 or
2, characterized in that the device for securing
30 against rotation comprises an elongated hole (14) or
polygonal hole in the guide element.

4. The stripping device (3) as claimed in one of the
preceding claims, characterized in that an elongated
35 hole having three straight sides (141, 142, 143, 311,
312, 313) and one curved side (144, 314) and a
correspondingly designed stripping element (15) are
provided.

5. The stripping device (3) as claimed in one of the preceding claims, characterized in that at least one guide sleeve (11, 26) is arranged as a guide element
5 outside the stripping element (15), at least partially surrounding the latter in a guiding manner, and/or at least one guide bushing (33) is arranged as a guide element within the stripping element (34), guiding the latter.

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6. The stripping device (3) as claimed in claim 5, characterized in that instead of the device for securing against rotation in the form of a pairing, formed asymmetrically in at least one direction, of
15 stripping element and hole or opening in the guide element, two fitting shoulder screws (36) are provided for fastening to the cutting tool (1), and a region of the stripping element that surrounds the fitting shoulder screws is provided for engaging round a
20 fastening plate (5) for the punch (2).

7. The stripping device (3) as claimed in one of the preceding claims, characterized in that at least one guide surface (19) is provided between stripping
25 element (15) and guide element (11, 26), the length of which surface can be selected as a function of the forces acting on the stripping device, in particular shearing and lateral forces, in order to ensure tilt-free guidance.

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8. The stripping device (3) as claimed in claim 7, characterized in that the stripping element (15) has an essentially straight section (17) and a protruding section (18), guide surfaces being provided on the
35 straight and the protruding sections (17, 18) of the stripping element (15).

9. The stripping device (3) as claimed in one of the

preceding claims, characterized in that the stripping element (15, 34) has at least one guide surface on its inside facing a fitted cutting element (2), in particular the stem thereof, and/or the stripping
5 element (15, 34) and the spring-elastic element (21) are oriented, surrounding the cutting element (2), in such a manner that they can be loaded in a manner essentially free from torque.

10 10. The stripping device (3) as claimed in one of the preceding claims, characterized in that a lubricant (16), in particular a solid lubricant, is provided at least in a subregion of the straight section (17).

15 11. The stripping device (3) as claimed in one of the preceding claims, characterized in that the guide element (26) is formed integrally with the fastening piece (28) or guide element (11) and fastening piece (4) are formed as elements which can be joined
20 together.

12. The stripping device (3) as claimed in one of the preceding claims, characterized in that the spring-elastic element (21) is arranged between stripping
25 element (15) or guide element (33) and cutting tool (1) and/or within the guide element (11, 26).

13. The stripping device (3) as claimed in one of the preceding claims, characterized in that at least one
30 protruding region (50) and/or protruding section (51), in particular a claw- or clamp-shaped section, is or are provided on the circumference of the fastening piece (4) for engaging around a fastening device (5) of the cutting tool (1), in particular standardized
35 fastening plate.

14. The stripping device (3) as claimed in one of the preceding claims, characterized in that the stripping

element (15, 34) can be provided or is provided with a shape corresponding to the workpiece and consists, in particular, of bronze or another material which can be machined and matched to the shape of the workpiece surface.

15. The stripping device (3) as claimed in one of the preceding claims, characterized in that the spring-elastic element (21) is a rubber spring or consists of another spring-elastic, restoring or flexible material.